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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MUTSCHLER, BRIAN L

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,517

Applicant(s)

DOI ET AL.

Examiner

Brian L. Mutschler

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. On page 6 at lines 16-17, please change "Fig. 5" to --Figs. 5A-5C--.
 - b. On page 15 at line 8, please change "mater" to --master--.

Appropriate correction is required.

Claim Objections

2. Claims 1, 4, 8, and 10 are objected to because of the following informalities:
 - a. In claim 1 at line 4, please change "through an electroforming" to --through electroforming--.
 - b. In claim 4 at line 4, please change "through an electroforming" to --through electroforming--.
 - c. In claim 8 in line 7, please change "through an electroforming" to --through electroforming--.
 - d. In claim 10 at line 4, please change "through an electroforming" to --through electroforming--.
 - e. In claim 10 at lines 8-9, please change "through an electroforming" to --through electroforming--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 10, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "normal concavities/convexities pattern" in line 5.

The term "normal" renders this limitation indefinite because it is not clear what a "normal" pattern comprises or the relationship between a "normal" pattern and the reverse pattern. Phrases commonly used in the art in reference to complimentary patterns typically include positive/negative patterns. The phrase also occurs in claim 2 at line 4; claim 4 at line 3; claim 6 at line 8; and claim 10 at line 3. The same applies to dependent claims 2, 3, 5-7, and 11.

Claim 3 recites the limitation "an exfoliation layer forming process that after the plating process in advance of the electroforming process" in lines 2-3. This limitation is indefinite because the order of the steps is not clear. In claim 2, the plating process is defined as "a plating process that in advance of the electroforming process." Therefore, in claim 3, it is not clear if the phrase "in advance of the electroforming process" is referring to the exfoliation layer forming process or the plating process. Since the specification discloses that the exfoliation layer forming process occurs before electroforming, it is suggested that the phrase be changed to --an exfoliation layer forming process that after the plating process and in advance of the electroforming

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process-- to clearly define the order of the steps. A similar limitation appears in claim 6 at lines 2-3. The same applies to dependent claims 2, 3, and 7.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Prusak et al. (U.S. Pat. No. 4,341,613).

Regarding claims 1 and 4, Prusak et al. disclose a method of making a die comprising the steps of electroforming a substrate to form a master having negative patterns, manufacturing a mother die having positive patterns by electroforming a metal onto the master, and manufacturing a stamper having negative patterns by electroforming a metal onto the mother die (col. 1, lines 29-49).

Since Prusak et al. teach all of the limitations recited in the instant claims, the reference is deemed to be anticipatory.

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7. Claims 1, 2, 4, and 8, are rejected under 35 U.S.C. 102(b) as being anticipated by Maenza et al. (U.S. Pat. No. 5,494,782). (The claims are rejected under three alternative interpretations of the reference.)

Alternative 1:

Regarding claims 1 and 4, Maenza et al. teach the reproduction of a die comprising the steps of metalizing a substrate and electroforming a master die **64** having a negative pattern, electroforming a mother die **82** having a positive pattern on the master die **64**, and electroforming a stamper **92** having a negative pattern on the mother die **82** (fig. 1; col. 1, line 60 to col. 2, line 34).

Alternative 2:

Regarding claims 1 and 2, Maenza et al. teach a method comprising the reproduction of a die comprising a plating process to form a plating layer **52** on the positive features of a substrate **12** (mother die), followed by an electroforming process to form a metal master **64** (stamper) (fig. 1; col. 1, line 60 to col. 2, line 34). The metallized substrate is structurally and functionally equivalent to the limitations of the mother die as recited in claims 1 and 2; the metal master is structurally and functionally equivalent to the stamper as recited in claims 1 and 2.

Alternative 3:

Regarding claim 8, Maenza et al. teach a method comprising the reproduction of a die comprising a plating process to form a plating layer **52** on the positive features of a

substrate **12** (product), followed by an electroforming process to form a metal master **64** (stamper) (fig. 1; col. 1, line 60 to col. 2, line 34). The substrate has all of the structural and functional limitations recited in claim 8.

Since Maenza et al. teach all of the limitations recited in the instant claims, the reference is deemed to be anticipatory.

8. Claims 1, 2, 4, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Krinke (U.S. Pat. No. 5,997,709).

Regarding claims 1 and 4, Krinke discloses a method of reproducing dies comprising the steps of electroforming a mother die having a positive pattern on a master die, followed by electroforming a stamper having a negative pattern on the mother die (col. 2, lines 27-35). The master die can also have a positive pattern (col. 2, lines 32-35).

Regarding claims 2 and 5, a plating process deposits a diffusing (plating) layer over the master die **10** before subsequent electroforming (col. 2, lines 36-46; col. 3, lines 2-11). When the master die **10** has positive features, the master die is structurally and functionally equivalent to a mother die and can be used to form stampers directly (col. 3, lines 8-11).

Regarding claim 7, the stamper is used to mold lenses (col. 2, lines 26-35).

Since Krinke teaches all of the limitations recited in the instant claims, the reference is deemed to be anticipatory.

9. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al. (U.S. Pat. No. 6,409,902).

Regarding claim 8, Yang et al. teach a method of forming a die (metal shell) comprising deposition film forming process to form a metallization layer over a nonconductive product (master), which is subsequently subjected to an electroforming process to manufacture a stamper (metal shell) (col. 1, lines 15-32).

Since Yang et al. teach all of the limitations recited in the instant claim, the reference is deemed to be anticipatory.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maenza et al. (U.S. Pat. No. 5,494,782), as applied above to claims 1, 2, 4, and 8, and further in view of Ohashi et al. (U.S. Pat. No. 5,277,783).

Maenza et al. teach a method having the limitations recited in claims 1, 2, 4, and 8 of the instant invention, as explained above in section 7. Maenza et al. disclose the electroforming of nickel (col. 2, lines 7-16).

The method of Maenza et al. differs from the instant invention because Maenza et al. do not teach an exfoliation layer forming process after the plating process and before the electroforming process, as recited in claim 3.

Ohashi et al. teach a method of electroforming nickel using a thiazole compound, such as NIKKANON TACK (col. 2, lines 28-46). The thiazole compound acts as a releasing film to easily separate the electroformed layer from the substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Maenza et al. to use a step of forming an exfoliating layer as taught by Ohashi et al. because using an exfoliating layer makes the electroformed layer easier to separate from the substrate.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krinke (U.S. Pat. No. 5,997,709), as applied above to claims 1, 2, 4, 5, and 7, and further in view of Ohashi et al. (U.S. Pat. No. 5,277,783).

Krinke teaches a method having the limitations recited in claims 1, 2, 4, 5, and 7 of the instant invention, as explained above in section 8. Krinke also discloses the electroforming of nickel (col. 4, lines 13-16).

The method of Krinke differs from the instant invention because Krinke does not teach an exfoliation layer forming process after the plating process and before the electroforming process, as recited in claim 6.

Ohashi et al. teach a method of electroforming nickel using a thiazole compound, such as NIKKANON TACK (col. 2, lines 28-46). The thiazole compound acts as a releasing film to easily separate the electroformed layer from the substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Krinke to use steps of forming exfoliating layers as taught by Ohashi et al. because using exfoliating layers makes the electroformed layer easier to separate from the substrate.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (U.S. Pat. No. 6,409,902), as applied above to claim 8, and further in view of Krinke (U.S. Pat. No. 5,997,709).

Yang et al. teach a method of forming a die from any object (col. 1, lines 15-51).

The method of Yang et al. differs from the instant invention because Yang et al. do not expressly disclose that the product is a lens sheet, as recited in claim 9.

Krinke teaches the formation of dies using electroforming to fabricate lenses (col. 2, lines 26-35).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the method taught by Yang et al. to fabricate lenses as taught by Krinke because Krinke teaches that electroformed dies can accurately mold lenses.

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14. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krinke (U.S. Pat. No. 5,997,709) in view of Ueda et al. (U.S. Pat. No. 4,537,732).

Regarding claim 10, Krinke discloses a method of reproducing dies comprising the steps of electroforming a mother die having a positive pattern on a master die, followed by electroforming a stamper having a negative pattern on the mother die (col. 2, lines 27-35). A plating process is used to form a diffusing layer on the master die **10** (col. 2, lines 35-45). The master die **10** can be used to directly produce a lens (col. 2, lines 27-35).

Regarding claim 11, the product is a lens (col. 2, lines 27-35).

The method of Krinke differs from the instant invention because Krinke does not teach a property check process to perform a property check of the molded product, as recited in claim 10.

Ueda et al. teach a method of molding a lens followed by a property check process to check for acceptable surface accuracy (col. 8, lines 15-37).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Krinke to use a property check process as taught by Ueda et al. because checking the properties of the product enables the maintenance of uniform and acceptable products.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,837,156 Cumming


U.S. Pat. No. 6,402,922 Goller

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Mutschler whose telephone number is (571) 272-1341. The examiner can normally be reached on Monday-Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

blm
February 17, 2004


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